MERGERS AND ACQUISITIONS

Introduction

The table below outlines merger and acquisitions activity in the UK over the period 1990-2001. The first point of note is the high level of acquisitions during the second half of the 1990s. If we were to go further back, we would find that there was also a boom in acquisitions activity in the second half of the 1980s and during the period from 1968 to 1973. This demonstrates one feature of acquisitions activity: it tends to occur in waves.

Acquisitions of UK Companies 1990-2001(Q3)				
	By UK Companies		By Non-UK Companies	
Date	No of Acquisitions	Cost (£ million)	No of Acquisitions	Cost (£ million)
1990	779	8,329	143	10,958
1991	506	10,434	146	6,667
1992	432	5,941	210	4,139
1993	526	7,063	267	5,187
1994	674	8,269	202	5,213
1995	505	32,600	131	12,817
1996	584	30,742	133	9,513
1997	506	26,829	193	15,717
1998	635	29,525	252	32,413
1999	493	26,163	252	60,860
2000	587	106,916	227	64,618
2001(Q1-Q3)	313	26,724	114	20,188
Office for National Statistics, www.statistics.gov.uk/statbase/mainmenu.asp				

Another striking feature of the most recent wave of acquisitions has been the large size of individual acquisitions. For instance, in 1989 there were a total of 1505 acquisitions of UK companies costing a total of 39.38 billion. This represents an average cost per acquisition of approximately £26 million. The figures for 1999 show that a decade later the average outlay on a corporate acquisition in the UK was nearly £117 million. Clearly, the most recent wave of mergers has involved significantly larger companies.

The involvement of non-UK companies in the acquisition of UK operation is another striking feature of the latest wave. Of the 1505 UK acquisitions in 1989, 168 were by non-UK companies involving expenditure of £12.13 billion. Hence, non-UK companies accounted for approximately 11 per cent of acquisitions, or nearly 31 per cent if measured in terms of market value. In 1999, non-UK companies accounted for nearly 34 per cent of all acquisitions, or nearly 70 per cent in terms of market value.

Acquisitions and Shareholder Wealth

While the evidence cited above indicates significant macro-economic and capital market developments, the primary concern here is to understand the motivations behind the decision to acquire another firm. In principle, the matter is straightforward. The decision to acquire another company is simply an investment decision that can be treated in much the same way as a decision to purchase new capital equipment. The criteria by which the success or failure of a corporate acquisition should be judged are the same, i.e., do the expected returns, when discounted by an appropriate risk-adjusted cost of capital, result in a net present value (NPV) of zero or greater? If so, then the acquisition is consistent with the maximisation of shareholder wealth. In other words, an acquisition can simply be regarded as one among a range of competing investment opportunities available to a firm's shareholders.

The characterisation of mergers and acquisitions as simply a particular type of investment opportunity available to individual, wealth maximising, firms should be regarded as a normative statement. Mergers **ought** to happen when, and only when, they are consistent with the objective of maximising shareholder wealth. The next lecture will focus on whether or not this provides an effective framework for understanding mergers and acquisitions in practice. The notes below reserve judgment on this question. They concentrate on identifying the source of the incremental shareholder wealth that justifies the merger of two companies and assesses the implications for corporate values.

Synergy and Acquisitions

There are essentially two ways in which additional shareholder wealth can be generated by means of acquisitions.

- If the target company is undervalued in relation to its profit-generating performance, then it may be possible to increase shareholder wealth through acquisition. This might occur in the form of 'asset-stripping' whereby the sale of individual components of the acquired company generates more wealth than was spent on the acquisition.
- If the acquisition is expected to enable the merged operation to generate a net cash flow greater than the sum that the two companies are able to generate by operating separately. In other words, shareholders will benefit if the merged entity is able to exploit synergy opportunities that are, by definition, not available to the two pre-merger companies. Synergy, in effect, involves the idea that two plus two adds up to five.

Even if we were to accept that acquisitions are motivated by the objective of enhancing shareholder wealth, it would be extremely difficult to measure the effects of these two factors on the value of the merged entity. What if, for instance, one part of the acquired firm is retained because it fits in with current operations, while another part is disposed of? Apportioning the financial benefit between the two factors would be little more than guesswork.

Despite these practical difficulties, the notion that acquisitions are motivated by the wealth-maximising imperative is the theoretical starting point for investigation. Furthermore, the concept of synergy plays a pivotal role. This is partly because it yields a neat theoretical explanation for mergers that is consistent with the conventional neo-classical model of economic behaviour. The proposition can be expressed in the following way:

> Given an efficient stock market and managerial efficiency within the individual firm, a merger should occur when it is expected to enhance shareholder wealth. The basis for this increased shareholder wealth is the economies of scale in production, marketing, distribution, financing and research that arise as a result of the merger. These gains can be classified as synergy gains because they are only available as a result of the merger.

The credibility of the synergy theory of acquisitions will be subject to more critical appraisal later. Here we concentrate on demonstrating the effects of synergy benefits on the value of the firm and the wealth of both sets of shareholders.

R Pike & B Neale (p.626) state that synergy benefits should be distinguished from those benefits associated with the increased scale of the company's operations. They give the example of one company's sales staff being able to stimulate sales of an acquired firm's product through offering it as part of a package. Any increase in net revenues is not due to the greater size of the company *per se*, but due to new marketing opportunities arising as a result of the merger. Strictly speaking Pike & Neale are correct. However, you will find that most textbooks do not bother making this, arguably pedantic, distinction. The concept of synergy benefits usually embraces those associated with economies of scale. The following discussion assumes the latter standpoint when referring to synergy.

Synergy and the Value of the Firm

The synergy theory of mergers suggests that:

$$V_{AB} \rangle V_A + V_B$$

Where: V_{AB} = The value of a merger between companies A and B.
V_A = The value of company A before the merger.
V_B = The value of company B before the merger.

Quite simply, the value of the merged firm is greater than that of the two companies operating separately. Hence:

$$V_{AB} - \left(V_A + V_B \right) = S$$

Where: S = The present value of the synergy benefits.

This states that the difference between the market value of the merged company and the aggregate market value of the two companies prior to the merger is equal to the present value of the synergy improvements. In effect, S is the increase in the value of the shareholders' wealth arising from the merger. Assume that the economies of scale generated by the merger produce a permanent annual increase in the company's net cash flows of ΔNCF, then:

$$S = \frac{\Delta NCF}{k_E}$$

This states that the increase in the value of the firm is merely the present value of the change in the annual net cash flow (assuming that the change is permanent and constant).

The alteration in the net cash flow due to the merger can arise from a variety of sources.

- There may be improvements in revenue if the company can exploit a more dominant market position to charge monopoly prices. Alternatively, the merger may produce improved marketing strategies or facilitate increased sales through the creation of more efficient distribution networks.
- There may be reductions in costs due to economies of scale. For instance, fixed overheads such as head office expenses can be spread over a larger output. The merged company may be able to generate savings by concentrating production at fewer sites. Similar cost savings might be available in the area of distribution.
- There may be tax savings arising from a merger. For instance, the acquisition of a loss-making firm may enable the acquiring company to reduce its own tax burden. As a result, the tax authorities receive a smaller amount of corporate income, which implies that the value of the firm should rise. Another possibility is that a merger reduces the possibility of financial distress and, therefore, increases the merged company's scope to enhance shareholder wealth by exploiting the tax benefits of debt finance.
- There may be savings associated with raising additional capital. Issue costs, for both debt and equity, tend to fall as a proportion of the amount of capital raised. Hence a merger may facilitate economies of scale with respect to the issue costs of capital. (It should be stressed that it is not the cost of capital itself that can be reduced by means of a merger, merely the issue costs).

For a more detailed outline of the sources of synergy arising from a merger see SA Ross et al, Corporate Finance, pp.766-770.

The Distribution of the Incremental Value

The previous section focused on the potential increase in shareholder wealth arising from an acquisition. If the capital markets believe that a merger will generate additional value then it seems reasonable to assume that this knowledge will have an impact on the terms of the bid. In other words, shareholders on both sides will articulate their interests on the basis of the expected value of the merged firm, not on the values of the two firms prior to any knowledge of the merger. This raises the question of the distribution of the additional value between the bidding company and the target company shareholders. This is often presented in terms of the net present value of the merger to the bidding company shareholders.

The example below examines how the distribution of the additional value might be influenced by the method of financing employed. In other words, does it make any difference whether the bid is in the form of cash or shares? The purpose of the exercise is merely to illustrate how the method of financing can potentially complicate the issue. It leaves aside the deeper question of whether or not it is possible to develop a more general theory of how the incremental value ought to be distributed assuming that capital markets operate in an efficient manner.

Example: Taylor PLC has just announced a cash bid for Hopkins Industries PLC. The offer price per share involves multiplying Hopkins' earnings per share by Taylor's price/earnings ratio. In addition, the Finance Director for Taylor has estimated that, due to synergy benefits, there will be a permanent increase in annual earnings of the merged company of £20 million. The market value of the synergy benefits to the shareholders has been estimated using Taylor's cost of capital, which is currently 14 per cent. Assume that both companies are financed entirely by equity and that a cash offer would be paid for entirely from Taylor's liquid reserves. The table below provides relevant financial data on both of the companies.

	TAYLOR	HOPKINS
Market Value	£1000 million	£240 million
Number of Shares	400 million	200 million
Earnings	£60 million	£20 million
Earnings Per Share	15 pence	10 pence

The first step is to determine the implications of the cash offer for both sets of shareholders assuming that the synergy benefits are fully reflected in the market price of the merged company. The value of the merged firm should increase by the present value of the synergy benefit. The benefit is assumed to be perpetual. Hence its present value is 20/0.14 = **£142.86m**. The next step is to determine the offer per share for Hopkins. In accordance with the details above:

Taylor's P/E = 250/15 = 16.67
Offer per share = 10p x 16.67 = £1.667
Cash offer for Hopkins = 200m £1.667 = £333.4m

The subsequent value of the merged firm will be the value of the existing assets plus the value of synergy less the cash paid to Hopkins' shareholders. Hence:

Value of Merged Firm = 1000+240+142.86-333.4 = £1049.46m

We can also determine the distribution of the synergy benefit between the two groups of shareholders. Prior to the acquisition, the value of Hopkins was £240 million, while the cash received was £333.4 million. Hence the benefit is £93.4 million. The pre-merger value of Taylor was £1000 million. The newly merged company has a value of £1049.6 million.

If we now change the details and assume that, instead of cash, the shareholders in Hopkins accept new shares in the merged firm. Assume that the offer involves Taylor shares valued at their pre-merger price and that the total value of the offer is the same as for the cash alternative. In this case the value of the merged firm is1000+240+142.86 = £1382.86 million. In other words it will be higher than under the cash offer because no

cash leaves the merged firm. How many new shares in Taylor are issued to Hopkins' shareholders? Based on the assumptions outlined above, the number of newly issued shares is:

333.4/2.5 = 133.36m

Hence 200 million Hopkins shares are replaced with 133.36 million Taylor shares. The exchange ratio, therefore, is 0.667 Taylor shares for every Hopkins share. As a result, the total number of Taylor shares in issue rises to 533.36 million. This gives a post merger share price of:

1382.86m/(533.36m) = £2.5927

Returning to the distribution of the synergy benefit, Hopkins shareholders have 133.36 million shares valued at £2.5927 each. Therefore the distribution of the synergy benefit is:

Hopkins shareholders = (133.36x2.5927)-240 = £105.76m

Taylor shareholders = (400x2.5927)-1000 = £37.08m

The distribution of the incremental value between the two sets of shareholders differs compared to the all cash offer. It could be argued that this is merely the outcome of the assumptions imposed on the data. Another possibility is that the difference reflects contrasting degrees of risk arising from the two options.

In the case of an all cash offer, the bidding company shareholders assume all the risks associated with realising the synergy benefits of the merger. The target company shareholders, having accepted cash, are not affected by subsequent events. However, if they accept shares in the merged company they effectively take on some of the risk of realising the synergy improvements. Hence, it could be argued that the additional premium received by the target company shareholders in the case of the share-for-share option is compensation for the additional risk.

The problem with this argument is that it works both ways. Accepting a cash offer does protect target company shareholders from downside risk. But it also prevents them from gaining from any upside outcome. Likewise, the share-for-share offer enables the bidding company shareholders to spread the losses if the merger is not successful. But they have to share the gains if it is successful. Therefore, if we assume that the actual synergy gains are equally likely to be above or below the expected gain (i.e., the risk is normally distributed around a mean) then it implies that there is no reason for either set of shareholders preferring one method of financing over the other.

Furthermore, assuming a perfect capital market, individual investors can create their own preferred method of acquisition. In the case of a cash offer, shareholders wishing to acquire shares in the merged entity would simply use the funds to purchase shares. And in the case of a share offer, those preferring cash would simply sell the shares. In effect, investors can establish their preferred financing policy irrespective of the companies' actions. Hence the method chosen by the bidding company should not affect the distribution of value between the two sets of shareholders.

If this is the case, then in the above example the number of shares issued to the target company shareholders will be such that the total wealth accruing to them will be the same as under the cash offer. The total wealth accruing to Hopkins shareholders under the cash offer was £333.4 million. As a proportion of the post-merger value of the firm, this is:

333.4/1382.86 = 0.2411

Hence, the total number of shares post-merger will be:

400,000,000/(1-0.2411) = 527, 078,666

The result is that Hopkins shareholders receive 127,078,666 shares in the merged company, equivalent to an issue ratio of one new share for every 1.5738 old shares. The post-merger share price will be:

1382.86/527.08 = £2.6236

The value of shares held by the two sets of shareholders after the merger will be:

Hopkins shareholders = (127.08x2.6236) = £333.4m

Taylor shareholders = (400x2.6236) = £1049.4m

This is the same as under the cash offer.

Conclusion

It is important to stress that the argument above assumes a perfect capital market. Once we drop this assumption, then there may be good reason why shareholders prefer one method of financing to another. For instance, an acquisition using cash amounts to target company shareholders liquidating assets. This, in turn, may involve shareholders incurring capital gains tax liabilities. In these circumstances, shareholders might regard a share-for-share offer as preferable as there is no tax liability involved. One problem with this argument is that cash is by far the most important component in financing acquisitions. Furthermore, acquisitions financed entirely by shares in the merged company are relatively rare.

> In fact, much of the research into mergers and acquisitions has tended to generate major doubts about the viability of explanations based upon the quest for synergy benefits and the broader motive of shareholder wealth. Next week's lecture focuses more closely on the debate about the motives and objectives driving merger activity.